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EXAMINER	
SHORTLEDGE, THOMAS E	
ART UNIT	**PAPER NUMBER**
2654	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/732,600	ALSHAWI ET AL.
	Examiner	Art Unit
	Thomas E Shortledge	2654

9/3

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-61* is/are pending in the application.

4a) Of the above claim(s) *45-49* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44 and 50-61* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 45-49 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on Aug. 17, 2004.

Claim Objections

2. Claim 21, 31, and 60 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. This claim compares the input string with the natural language variants; however, claims 1, 23, and 50 recites selecting a natural language variant that most resembles the input string. It would be inherent that a comparison would be completed to find the matching variant.

3. Claims 23 and 51 are objected to because of the following informalities: the term "voice recognizer" is being used to describe receiving an input string. However, the term "voice recognizer" now denotes identification of who is doing the speaking (class

704/246), while a "speech recognizer" (or "word recognizer") denotes identification of what is being said (class 704/251). Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-21, 23-29, 31, 33-58, and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Gorin et al. (5,675,707).

As to claims 1 and 33, Gorin et al. teach:

a machine-readable medium having stored thereon executable instructions (read-only memory for storing software, col. 3, lines 20-21);

responsive to an input string (caller response, col. 3, line 64), selecting from one or more natural language variants (database of utterances) a prospective variant (selected utterance) that most resembles the input string (the utterance is selected from a database of a large number of utterances, col. 4, lines 27-30, the natural language variant is being interpreted as being an alternative way to phrase a request for the action that associated with an exemplar E and C, and the prospective variant is

interpreted as being a given text or data sequence that most resembles or closely matches the recognized word sequence); and

identifying a natural language exemplar (routing objectives) via a mapping between the exemplar and the prospective variant (each utterance is labeled with one of the predetermined set of routing objectives, col. 4, lines 35-36, (exemplar is being interpreted as a exemplary English sentence).

As to claims 2 and 34, Gorin et al. teach mapping the one or more natural language variants with at least one natural language exemplar (utterances are each matched with a set of predetermined routing objectives, col. 4, lines 35-36).

As to claim 3, Gorin et al. teach the prospective variant corresponds to at least on a natural language exemplar (utterances are related to one of a predetermined set of routing objectives, col. 4, lines 27-28).

As to claims 4 and 35, Gorin et al. teach executing an action instruction associated with the identified natural language exemplar (the routing objectives have an action assigned to them, directing where the call is to be routed to, col. 4, lines 5-6, and lines 34-35).

As to claims 5 and 36, Gorin et al. teach mapping a plurality of action instructions with a plurality of natural language exemplars, wherein each action instruction with at

least on natural language exemplar (the routing objectives within the system direct the actions to route the calls to the correct area, col. 4, lines 5-6, and lines 34-35. It would inherent that since the actions are dependent on the routing objectives, each of the action instructions is associated with at least one of the routing objectives.)

As to claims 6 and 37, Gorin et al. teach generating a mapping function (confidence function) that specifies a difference between the input string and the prospective variant (the interpretation applies a confidence function to rate how the selected routing objectives relate to the desired inputted action, col. 7, lines 22-25. The interpretation would also inherently include finding the probability the prospective utterance is related to the input, seeing as the utterance corresponds to the routing objective.).

As to claims 7 and 38, Gorin et al. teach applying the mapping function to the action instruction associated with the identified natural language exemplar to produce an adapted action instruction (the confidence function finds with what probability the desired action matches the action associated with the selected routing objective, and if the confidence level is low, the user is asked to provide additional information, col. 7, lines 25-29. It would be inherent that the user would be adapting the action instruction, as more information is provided.).

As to claims 8 and 39, Gorin et al. teach executing the produced adapted action instruction (a decision is made to see if the new routing objective is appropriate, col. 7, line 34).

As to claims 9 and 40, Gorin et al. teach applying the mapping function to the identified natural language exemplar to produce an adapted exemplar (adapted routing objective), (the confidence function assigns a confidence rating, based on the probabilistic relation between the recognized meaningful phrases and the selected routing objectives. If the confidence rating is found to be to low, the user is asked to provide more information, inherently adapting the routing objective. (col. 7, lines 25-30)).

As to claims 10 and 41, Gorin et al. teach forwarding the adapted exemplar to a user to confirm whether the user desires an adapted action corresponding to the adapted exemplar (the adapted routing objective is again processed for its matching probability, and if the probability is low, the user is asked to provide more information, inherently creating an adapted action based on the newly adapted routing objective. If the user declines to add more information, the user is forwarded to an operator, col. 7, lines 34-38).

As to claims 11 and 42, Gorin et al. teach executing the adapted action if the user confirms that an adapted exemplar expresses the action desired by the user, (if an

answer of yes is given the query to the user, and no additional information is needed the objective is implemented, col. 8, lines 15-19, and 23-26).

As to claim 14, Gorin et al. teach storing one or more natural language variants mapped to at least on natural language exemplar in a memory, (a database of utterances, each of which is related to one of a predetermined set of routing objectives, col. 4, lines 27-29).

As to claim 15, Gorin et al. teach at least on natural language variant is input by a user (each utterance supplied by the user is transcribed and labeled with a set of routing objectives, col. 4, lines 33-37).

As to claim 16, Gorin et al. teach at least one natural language variant is input by an application developer (a database containing utterances is initially set up in the system, col. 4, lines 26-27).

As to claim 17, Gorin et al. teach at least one natural language exemplar is input by the application developer (a database containing utterances, with each of the utterances related to one of a number of routing objectives is initially set up in the system, col. 4, lines 26-27).

As to claim 20, Gorin et al. teach loading an active context file relating to a service accessed by a user, the active context file containing the one or more natural language variants and the natural language exemplar (a database is loaded that includes utterances that are linked to a set of predetermined routing objectives, col. 4, line 27-30).

As to claim 21 it is rejected for the same reasons as claim 1, above.

As to claim 23, Gorin et al. teach:

a speech recognizer to receive an input string and produce a recognized input string (receiving a spoken input string, and producing a string to find a corresponding utterance, col. 3, lines 64-67, and col. 4, lines 1-4, and 27-28);

a memory to store one or many natural language variants corresponding to at least one natural language exemplar (a database of a large number of utterances and relating set of routing objectives, col. 4, lines 27-30);

a processor (a micro or digital processor, col. 3, lines 17-18):

to select from the one or more natural language variants a prospective variant that most resembles the received recognized input string (a database of utterances that can represent the user input is supplied, col. 4, lines 35-36); and

to identify the at least one natural language exemplar corresponding to the prospective variant (each utterance is transcribed and labeled with one of the routing objectives, col. 4, lines 33-36).

As to claim 24, Gorin et al. teach a controller (a micro-processor with controlling software, col. 3, lines 17-20) adapted to execute an action instruction associated with the identified natural language exemplar corresponding to the prospective variant (the routing objectives have an action assigned to them, directing where the call is to be routed to, col. 4, lines 5-6, and lines 34-35).

As to claim 25, Gorin et al. teach a processor adapted to apply the mapping function to the action instruction associated with at least one natural language exemplar and the memory to store the mapped action instructions (the routing objectives within the system direct the actions to route the calls to the correct area, col. 4, lines 5-6, and lines 34-35. It would inherent that since the actions are dependent on the routing objectives, each of the action instructions is associated with at least one of the routing objectives.).

As to claim 26, Gorin et al. teach adapted to further generate a mapping function (confidence function) that specifies a difference between the received recognized input string and the prospective variant (the interpretation applies a confidence function to rate how the selected routing objectives relate to the desired inputted action, col. 7, lines 22-25. The interpretation would also inherently include finding the probability the prospective utterance is related to the input, seeing as the utterance corresponds to the routing objective.).

As to claim 27, Gorin et al. teach a processor adapted to apply the mapping function to the action instruction associated with identified natural language exemplar mapped to the prospective variant to produce an adapted action instruction (the confidence function finds with what probability the desired action matches the action associated with the selected routing objective, and if the confidence level is low, the user is asked to provide additional information, col. 7, lines 25-29. It would be inherent that the user would be adapting the action instruction, as more information is provided.).

As to claim 28, Gorin et al. teach the controller adapted to execute the produced adapted instruction (a decision is made to see if the new routing objective is appropriate, col. 7, line 34).

As to claim 29, Gorin et al. teach an output synthesizer to present a result of the executed instruction by providing data that can be presented to an audio or visual terminal device (telephone) (the user interacts with the system through the telephone, where the system is able to ask the user questions, col. 3, line 56, and col. 8, line 16. It would be inherent, that since a the system is able to ask the user a question, an output synthesizer would be used.).

As to claim 31 it is rejected as claim 23 is rejected above.

As to claim 50, Gorin et al. teach:

a memory to store one or many natural language variants corresponding to at least one natural language exemplar (a database of a large number of utterances and relating set of routing objectives, col. 4, lines 27-30);

a processor (a micro or digital processor, col. 3, lines 17-18):

to select from the one or more natural language variants a prospective variant that most resembles the received recognized input string (a database of utterances that can represent the user input is supplied, col. 4, lines 35-36); and

to identify the at least one natural language exemplar corresponding to the prospective variant (each utterance is transcribed and labeled with one of the routing objectives, col. 4, lines 33-36).

As to claim 51, Gorin et al. teach a speech recognizer to receive an input string and produce a recognized input string (receiving a spoken input string, and producing a string to find a corresponding utterance, col. 3, lines 64-67, and col. 4, lines 1-4, and 27-28);

As to claim 52, Gorin et al. teach a controller adapted to execute an action instruction associated with the identified natural language exemplar (the routing objectives have an action assigned to them, directing where the call is to be routed to, col. 4, lines 5-6, and lines 34-35).

As to claim 53, Gorin et al. teach the processor adapted to map the one or more natural language variants with the natural language exemplar (utterances are related to one of a predetermined set of routing objectives, col. 4, lines 27-28).

As to claim 54, Gorin et al. teach the processor adapted to map a plurality of action instructions with a plurality of natural language exemplars, wherein each action instruction is associated with at least one natural language exemplar and the memory to store the mapped action instructions (a database containing the routing objectives, that within the system direct the actions to route the calls to the correct areas, col. 4, lines 5-6, and lines 34-35. It would inherent that since the actions are dependent on the routing objectives, each of the action instructions is associated with at least one of the routing objectives.).

As to claim 55, Gorin et al. teach the processor is adapted to generate a mapping function (confidence function) that specifies a difference between the recognized input string and the prospective variant (the interpretation applies a confidence function to rate how the selected routing objectives relate to the desired inputted action, col. 7, lines 22-25. The interpretation would also inherently include finding the probability the prospective utterance is related to the input, seeing as the utterance corresponds to the routing objective.).

As to claim 56, Gorin et al. teach the processor is adapted to apply the mapping function to an action instruction associated with the identified natural language exemplar to produce an adapted action instruction (the confidence function finds with what probability the desired action matches the action associated with the selected routing objective, and if the confidence level is low, the user is asked to provide additional information, col. 7, lines 25-29. It would be inherent that the user would be adapting the action instruction, as more information is provided.).

As to claim 57, Gorin et al. teach a controller adapted to execute the produced adapted action instruction (a decision is made to see if the new routing objective is appropriate, col. 7, line 34).

As to claim 58, Gorin et al. an output synthesizer to present a result of the executed instruction by providing data that can be presented to an audio or visual device, (if the input is correctly identified and processed, the user is supplied with the wanted information over the telephone, col. 3, lines 64-67, and col. 4, lines 1-6).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 12, 13, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorin et al., as claims 11, and 42 are above, in view of Vanbuskirk et al. (6,327,566).

As to claims 12 and 43, Gorin et al. teach:

identifying a natural language exemplar via a mapping between the exemplar and the alternative prospective variant (the initial steps are repeated, including those of mapping the new utterance to a routing objective, col. 8, lines 15-18).

Gorin et al. do not teach:

if the user does not accept that the adapted exemplar expresses the action desired by the user, selecting from the one or more natural language variants an alternative prospective variant that most resembles the input string.

However, Vanbuskirk et al. teach if the user inputs a phrase expecting to get a print-out document, but only gets the document copied to the clip-board, the user is able to select alternate commands, replacing copy with print, (col. 7, lines 52-53, and 59-65).

Therefore it would have been obvious to one of ordinary skill at the time of the invention to combine the speech recognition system of Gorin et al. with user adaptation of Vanbuskirk et al. to provide a quick and simple method of correcting incorrectly recognized voice commands in a speech recognition systems, as taught by Vanbuskirk et al. (col. 2, lines 13-16).

As to claims 13 and 44, Gorin et al. teach executing an action instruction associated with the identified natural language exemplar, (the routing objectives have an action assigned to them, directing where the call is to be routed to, col. 4, lines 5-6, and lines 34-35).

8. Claims 22, 32, and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorin et al., as claims 1, 31, and 61 are above, in view of Vanbuskirk et al.

As to claims 22, 32, and 61, Gorin et al. teach a speech recognition device (an input speech recognizer, fig. 4, element 15)

Gorin et al. do not teach the input string is input by at least one of a keyboard, handwriting recognition device, and a dial pad.

However, Vanbuskirk et al. teach the input can be voice, mouse, stylus or keyboard.

Therefore it would have been obvious to one of ordinary skill at the time of the invention to combine the speech recognition system of Gorin et al. with the multiple input device Vanbuskirk et al. to provide a quick and simple method of correcting incorrectly recognized voice commands in a speech recognition systems, as taught by Vanbuskirk et al. (col. 2, lines 13-16).

9. Claims 30 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gorin et al., as claims 29 and 58 are above, in view of Vanbuskirk et al.

As to claim 30 and 59, Gorin et al. do not teach the output synthesizer is at least one of a display format and a speech synthesizer.

However, Vanbuskirk et al. teach the output can be a monitor, (fig. 1, element 26).

Therefore it would have been obvious to one of ordinary skill at the time of the invention to combine the speech recognition system of Gorin et al. with the output device Vanbuskirk et al. to provide a quick and simple method of correcting incorrectly recognized voice commands in a speech recognition systems, as taught by Vanbuskirk et al. (col. 2, lines 13-16).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dutton et al. (6,138,100), Van Tichelen et al. (6,311,159), Junqua et al. (6,324,512), Kahn et al. (6,122,614), and Potter (5,729,659).

Dutton et al. teach a voice activated telephone connection system.

Van Tichelen et al. teach a computer interface that is controlled by the user through speech input.

Junqua et al. teach a system that allows different user to use speech input to control a series of contents through the phone.

Kahn et al. teach a system that allows for the automation of transcription systems.

Potter teaches a method and apparatus for using a speech input to control a computer system.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas E Shortledge whose telephone number is (703)605-1199. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on (703)306-3011. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TS
10/21/04

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SUPERVISORY PATENT EXAMINER